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10/738,318	12/17/2003	Sujit Basu	200310440-1	7916
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HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				CAO, DIEM K
ART UNIT		PAPER NUMBER		
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			10/02/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/738,318	BASU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	DIEM K. CAO	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 June 2008.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-35 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-35 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

1. Claims 1-35 are pending. Applicant has amended claims 13-15.

### ***Claim Objections***

2. Claims 4, 5 and 29 are objected to because of the following informalities: Claims 4, 5 and 29 recites EBNF or ANTLR, those should expand this abbreviation.

Claim 2 recites “said defined structure” which is unclear as what is the defined structure.  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-4, 9-16, 18-23, and 26-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Vargas (US PGPub: 2004/0103405).**

As to **Claim 1**, Vargas discloses the invention substantially as claimed including a method for converting data suitable for use on a source platform into data suitable for use on one or more target platforms, said method comprising:

- a) analyzing source platform code (*para. [0091]*);

- b) extracting information from said analyzed source platform code wherein said extracted information represents system model information which includes at least one of the logic, flow, user interface description, or data of said source platform code (*para. [0092]*);
- c) representing the extracted system model information in a generic reusable intermediate data format which is different from a format used by the source platform code and on the one or more target platforms (*para. [0047]* and *[0110]*);
- d) storing the generic reusable intermediate data format representing the extracted information (*para. [0046]*); and
- e) transforming said generic reusable intermediate data format representing the extracted information into code suitable for the one or more target platforms (*para. [0093]*).

As to **Claim 2**, Vargas discloses wherein said defined structure and format is XML (*para. [0110]*).

As to **Claim 3**, Vargas discloses wherein said analyzing of said source platform code comprises:

- a) defining a language recognition tool (*para. [0091]*); and
- b) using said defined language recognition tool to recognize elements of a program in a particular language (*para. [0091]*).

As to **Claim 4**, Vargas discloses wherein said language recognition tool is based on an EBNF programming language grammar (*para. [0118]*).

As to **Claim 9**, Vargas discloses producing a report from said extracted information (*para. [0110]*) (*The XML document generated as a result of parsing the original source code meets this limitation*).

As to **Claim 10**, Vargas discloses analyzing and performing an intermediate transformation of said extracted information to assist with said report producing step (*para. [0111]-[0112]*).

As to **Claim 11**, Vargas discloses wherein said report comprises at least one of: a user interface mock-up; data definitions; symbol counts; application flow; a generic XML report to assist in validating or verifying other complex manual migration of code from one platform to another platform; and details of a status of migration of code from one platform to another platform for a user (*para. [0110]*) (*The XML document meets this limitation both by creating as a generic XML document and by containing the flow of the program by maintaining a hierarchy of how the elements are related*).

As to **Claim 12**, Vargas discloses wherein said transforming step comprises:

- a) defining a set of transformation rules specific to said target platform (*Fig. 5-14 and Pgs. 9-11*); and
- b) using said transformation rules in transforming said extracted information into code suitable for said target platform (*Fig. 5-14 and Pgs. 9-11*).

As to **Claim 13**, Vargas discloses the invention substantially as claimed including a computer readable storage medium having code that migrates computer code from a source platform to one or more target platforms comprising:

- a) a means for preparing source files (*Fig. 2B*) (*The parser 112 meets this limitation*);
- b) means for reverse engineering said prepared source files into an intermediate code (para. [0100] and [0110]); and
- c) means for transforming said intermediate code into code suitable for use on said target platform (para. [0111]-[0113]);

wherein the intermediate code (XML) is different from code used on the source platform (Java code) and code used on the one or more target platform (C++ code) (para. [0047] and [0110]).

As to **Claim 14**, Vargas discloses a means for preparing reports on said reversed engineered prepared source files (*para. [0110]*).

As to **Claim 15**, Vargas discloses a means for creating transformation rules to assist with said transforming means and a means for inputting said transformation rules into said means for transforming said intermediate code (*Fig. 5-14 and Pgs. 9-11*).

As to **Claim 16**, being a computer program product of the method of **Claim 1**, it is rejected for the same reasons as **Claim 1** above.

As to **Claim 18**, Vargas discloses code for generating reports based on said generic reusable intermediate data format representing the extracted information (*para. [0110]*).

As to **Claim 19**, Vargas discloses code for analyzing and processing said generic reusable intermediate data format representing the extracted information to assist said code for generating reports (*para. [0111]*).

As to **Claim 20**, Vargas discloses code for generating an output file representing the code suitable for use on said target platform (*para. [0110]-[0111]*).

As to **Claim 21**, Vargas discloses said code for transforming comprises:

- a) code for inputting a set of transformation rules specific to said target platform; and
- b) code for using said transformation rules to convert said generic reusable intermediate data format representing the extracted information into said code suitable for use on said target platform (*Fig. 5-14 and pgs 9-11*).

As to **Claim 22**, Vargas discloses code for storing said generic reusable intermediate data format representing the extracted information of said code suitable for use on said source platform in XML format (*para. [0096] and [0110]*).

As to **Claim 23**, Vargas discloses code for generating an output file representing said generic reusable intermediate data format representing the extracted information that reflect said relevant aspects of said code suitable for use on said source platform (*para. [0096] and [0110]*).

As to **Claim 26**, this claim is rejected for the same reasoning as provided for **Claim 1**, with Vargas further teaching:

- a) memory storing a transformation program operating to (*para. [0036] and Fig 1, item 106*) (*The program is shown as being stored on the computer 106*); and
- b) a processor for executing said transformation program (*para. [0037] and Fig 1, item 106*)

As to **Claim 27**, Vargas discloses said defined structure and format is XML (*para. [0110]*).

As to **Claim 28**, Vargas discloses wherein said analyzing of said source platform code comprises:

- a) defining a language recognition tool (*para. [0091]*); and
- b) using said defined language recognition tool to recognize elements of a program in a particular language (*para. [0091]*).

As to **Claim 29**, Vargas discloses wherein said language recognition tool is based on an EBNF programming language grammar (*para. [0118]*).

As to **Claim 30**, Vargas discloses wherein said transformation program operates to further analyze a program operating on a source platform by: defining a custom analysis tool that is specific to said program operating on said source platform; and using said defined custom analysis tool to pre-process said program operating on said source platform before said extracting of information (*para. [0087]-[0089] and [0091]-[0093]*) (*In order to analyze each of the different languages specified, it is inherent that the analysis tool used for each language be tailored to that language*).

As to **Claim 31**, Vargas discloses wherein said transformation program operates to further analyze a program operating on a source platform by: defining a tool to be used for analyzing said source program operating on said source platform; and using said defined tool to identify elements of said source program operating on said source platform that are relevant and not-relevant to said transforming of said extracted information (*para. [0118]*) (*The analyzer contains a component to determine what information need not or cannot be converted to the target language. Who supplies the utility is irrelevant to the operation of the system*).

As to **Claim 32**, Vargas discloses wherein said transformation program further operates to: produce a report from said extracted information (*para. [0110]*) (*The XML document generated as a result of parsing the original source code meets this limitation*).

As to **Claim 33**, Vargas discloses wherein said transformation program further operates to: analyze and perform an intermediate transformation of said extracted information to assist with said report producing (*para. [0111]-[0112]*).

As to **Claim 34**, Vargas discloses said report comprises one or more of: a user interface mock-up; data definitions; symbol counts; application flow; a generic XML report to assist in validating or verifying other complex manual migration of code from one platform to another platform; and details of a status of migration of code from one platform to another platform for a user (*para. [0110]*) (*The XML document meets this limitation both by creating as a generic XML document and by containing the flow of the program by maintaining a hierarchy of how the elements are related*).

As to **Claim 35**, Vargas discloses said transformation program operates to transform said extracted information by:

- a) defining a set of transformation rules specific to said target platform (*Fig. 5-14 and Pgs. 9-11*); and
- b) using said transformation rules in transforming said extracted information into code suitable for said target platform (*Fig. 5-14 and Pgs. 9-11*).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**5. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas in view of Reid et al (US Pat: 6,560,592), hereinafter Reid.**

As to **Claim 5**, Vargas does not disclose said language recognition tool is an ANTLR language recognition tool. Reid discloses the use of a parse generated using the ANTLR parser generator (*Col. 19, Lines 48-66*).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method disclosed by Vargas with the ANTLR teachings of Reid because of the ease of use and standardization of output that tools such as ANTLR provide. Parser generators such as ANTLR generate parsers for text based on the syntax of the language the software developer wishes to parse. By allowing the developer to input a description of the language he or she wishes to parse, a tool such as ANTLR will output a program capable of parsing that language in a standardized way, without requiring the developer to generate a unique parser for each language by hand.

As to **Claim 6**, Vargas discloses wherein said analyzing step further comprises: defining a custom analysis tool that is specific to said source platform code; and using said defined custom analysis tool to pre-process said source platform code before said extracting of information (*para. [0087]-[0089] and [0091]-[0093]*) (*In order to analyze each of the different*

*languages specified, it is inherent that the analysis tool used for each language be tailored to that language to read that inputted language and give a proper output).*

As to **Claim 7**, Vargas discloses wherein said analyzing step further comprises: defining a custom analysis tool that is specific to said source platform code; and using +said defined custom analysis tool to post-process said source platform code after said extracting of information (para. [0087]-[0089] and [0091]-[0093]) (*In order to analyze each of the different languages specified, it is inherent that the analysis tool used for each language be tailored to that language to read that inputted language and give a proper output).*

As to **Claim 8**, Vargas discloses wherein said analyzing step further comprises: defining a tool to be used for analyzing said platform code; and using said defined tool to identify elements of said source platform code that are relevant and not-relevant to said transforming of said extracted information (para. [0118]) (*The analyzer contains a component to determine what information need not or cannot be converted to the target language. Who supplies the utility is irrelevant to the operation of the system).*

**6. Claims 17, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas in view of Li (US Pat: 6,546,549).**

As to **Claim 17**, Vargas does not explicitly disclose code for optimizing said source platform for extraction. However, Li does disclose optimizing said code by using templates for

the same software platforms but from different execution platforms to be utilized to generate new code that would be compatible with all of the execution platforms, involved (*Col. 4, Lines 23-62*).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the computer program product disclosed by Vargas with the teachings of Li to allow for the target source code produced by Vargas's system to be executable on multiple execution platforms in the new language upon which the target source would be composed.

As to **Claim 24**, it is rejected for the same reasons as **Claim 17** above.

As to **Claim 25**, Vargas discloses code for performing customized extraction of information from said code suitable for use on said source platform (*para. [0107]-[0108]*) (*The user computer program product can select which source platform files to process*).

#### ***Response to Arguments***

7. Applicant's arguments filed 6/13/2008 have been fully considered but they are not persuasive.

In the remarks, Applicant argued in substance that (1) Vargas does not teach “representing the extracted system model information in a generic reusable intermediate data format which is different from a format used by the source platform code and on the one or more target platforms” because Vargas does not teach the source unit DOM is in a different format from the source and target platform, in fact, the source unit DOM of Vargas has the same format

as the source platform, i.e., Vargas teaches that the source unit DOM cannot be in a different format from the format used by the source platform (pages 11-12).

Examiner respectfully disagrees with the arguments:

- As to the point (1), Vargas teaches the source format can be Java, C# or C++ format, and the target format can be Java or C++, i.e., Vargas teaches translation of Java codes to C++ code and vice versa. Vargas further teaches the source unit DOM format is XML format, clearly, the XML format is different from the Java format or C++ format. In addition, in contrast to Applicant arguments, Vargas at paragraph [0047] does not teach the source unit DOM has the same format as the source platform, but the SourceUnit DOM is only intended for representing source code files. Therefore, the arguments are not persuasive, and the rejection is maintained.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIEM K. CAO whose telephone number is (571)272-3760. The examiner can normally be reached on Monday - Friday, 7:30AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/  
Supervisory Patent Examiner, Art Unit 2195

DC  
September 23, 2008